CALFED
BAY-DELTA
PROGRAM

The CALFED Bay-Delta Program is an unprecedented cooperative effort among state and federal agencies and the public to ensure a healthy ecosystem, reliable water supplies, good water quality, and stable levees in California's Bay-Delta.

1416 Ninth St., Suite 1155 Sacramento, CA 95814
Phone: 916/657-2666 Fax: 916/654-9780
24-hour recorded hotline: 916/654-9924
http://calfed.water.ca.gov

Alternative 1

Common Program

- Ecosystem Restoration
- Water Quality
- Levee System Integrity
- Water Use Efficiency

Conveyance

Existing system of through-Delta channels, possibly increasing the permitted pumping capacity of the south Delta pumps.

Storage

0-500 TAF Conjunctive Use/ Groundwater Banking

0-1.5 MAF Upstream Surface Storage

0-600 TAF In-Delta Surface Storage

0-1.0 MAF South-of-Delta Surface Storage

Conjunctive Use *Integrated management of surface water and groundwater supplies to meet overall water supply and resource management objectives.*

Upstream Storage *Any offstream storage upstream of the Delta supplied by the Sacramento or San Joaquin Rivers or their tributaries.*

Groundwater Banking *Using available storage capacity within groundwater basins to store surface water that is recharged during periods when it is available (e.g. during peak flood flows).*

South-of-Delta Storage *Any offstream storage supplied with water exported south from the Delta.*

TAF/MAF *Abbreviation for thousand acre feet and million acre feet. An acre foot is the volume of water that would cover one acre to a depth of one foot, or 325,851 gallons of water. On average, could supply 1-2 households with water for a year.*

Overview

Similar to the other CALFED Bay-Delta Program alternative solutions, Alternative 1 includes the common programs, a water storage element, and a system for moving, or conveying, water through the Delta. The common programs are essentially the same in all three alternatives. In Alternative 1, water is conveyed using the current system of channels through the Delta (existing conveyance system).

Early in Phase II, technical studies will help determine what provisions for storage would complement this alternative. Staff will study a range of storage capacities and locations. Additional upstream surface storage (on any tributary stream contributing flow to the Delta) could be located north, east, or south of the Delta. Probable ranges to be studied in Alternative 1 are conjunctive use/groundwater banking (0-500 TAF), upstream surface storage (0-1.5 million acre-feet (MAF)), in-Delta storage (0-600 TAF), and south-of-Delta surface storage (0-1.0 MAF). Given the continued conveyance constraints through the Delta with this alternative, new south-of-Delta storage may not be cost-effective because of the difficulty in making full use of the additional storage capacity. These and other issues will be studied further in Phase II.

. . . Continued on back

Fish Screens *Physical structures placed at water diversion facilities to keep fish from getting pulled into the facility and dying there.*

Real-Time Monitoring *Continuous observation in multiple locations of biological conditions on site in order to adjust water management operations to protect fish species and allow optimal operation of the water supply system.*

Some Potential Benefits

- Preserves the common Delta pool (common source of fresh water for all users, with all users sharing the benefits and responsibilities for the in-Delta system).
- Compared to other alternatives, causes less disturbance to habitats in and near Delta channels.
- Can improve operational flexibility for the benefit of exports and ecosystem health.

Some Potential Concerns

- Fish entrainment continues at the pumps, and fish are still drawn into areas (though at a reduced rate) where they are subject to delay and predation.
- Little, if any, improvement in water quality as a result of improved conveyance efficiency.
- Dredging to support increased pumping could disrupt aquatic habitats.

Operations

This alternative would slightly adjust the way Delta diversions are operated. Under a subalternative of Alternative 1, the permitted capacity of south Delta pumps could be incrementally increased up to their physical capacity (15,000 cfs) at times of the year when fish are less vulnerable to the effects of these diversions. Improvements to the existing fish screens on the pumps will also help reduce fish losses at some diversions. By creating more operational flexibility, Alternative 1 would both reduce the impacts of pumping upon fish and improve water supply reliability.

When fish are least vulnerable to the effects of diversions, roughly during late fall and early winter, the pumps would operate at high capacity. Then pumping could be kept to a minimum during the higher priority periods for ecosystem health (approximately March through June). Real-time monitoring of fish populations, though early in its development stage and requiring additional validation and calibration, could be expanded to help guide the pumping operations.

New conjunctive use programs to optimize surface water and groundwater use and surface storage would provide more opportunities to store water during high pumping periods. At the higher pumping levels, Alternative 1 might require minor south Delta channel improvements to reduce channel velocities under certain flow conditions.

Issues for Further Study

Early in Phase II, several issues surrounding Alternative 1 will be analyzed further, including the feasibility of exchanging water to augment San Joaquin River flows and the use of a forum for Delta operations to make flow management, water transfer, and export decisions.

Adjustments to the Common Programs

While the common programs are essentially the same in all three alternatives, slight adjustments will be made in the common programs to complement each alternative's storage and conveyance components. For example, in Alternative 1, new habitats will be created at a distance from the pumps and the main conveyance channels to reduce fish losses.